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SEQUENCE LISTING

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<120> STRUCTURE OF THE FARNESOID X RECEPTOR LIGAND BINDING
 DOMAIN AND METHODS OF USE THEREFOR

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<140> 10/535,042
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<150> PCT/US03/036548
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<150> 60/426,665
 <151> 2002-11-15

<150> 60/426,668
 <151> 2002-11-15

<160> 6

<170> PatentIn Ver. 3.3

<210> 1
 <211> 476
 <212> PRT
 <213> Homo sapiens

<400> 1
 Met Gly Ser Lys Met Asn Leu Ile Glu His Ser His Leu Pro Thr Thr
 1 5 10 15
 Asp Glu Phe Ser Phe Ser Glu Asn Leu Phe Gly Val Leu Thr Glu Gln
 20 25 30
 Val Ala Gly Pro Leu Gly Gln Asn Leu Glu Val Glu Pro Tyr Ser Gln
 35 40 45
 Tyr Ser Asn Val Gln Phe Pro Gln Val Gln Pro Gln Ile Ser Ser Ser
 50 55 60
 Ser Tyr Tyr Ser Asn Leu Gly Phe Tyr Pro Gln Gln Pro Glu Glu Trp
 65 70 75 80
 Tyr Ser Pro Gly Ile Tyr Glu Leu Arg Arg Met Pro Ala Glu Thr Leu
 85 90 95
 Tyr Gln Gly Glu Thr Glu Val Ala Glu Met Pro Val Thr Lys Lys Pro
 100 105 110

Arg	Met	Gly	Ala	Ser	Ala	Gly	Arg	Ile	Lys	Gly	Asp	Glu	Leu	Cys	Val	115	120	125
Val	Cys	Gly	Asp	Arg	Ala	Ser	Gly	Tyr	His	Tyr	Asn	Ala	Leu	Thr	Cys	130	135	140
Glu	Gly	Cys	Lys	Gly	Phe	Phe	Arg	Arg	Ser	Ile	Thr	Lys	Asn	Ala	Val	145	150	155
Tyr	Lys	Cys	Lys	Asn	Gly	Gly	Asn	Cys	Val	Met	Asp	Met	Tyr	Met	Arg	165	170	175
Arg	Lys	Cys	Gln	Glu	Cys	Arg	Leu	Arg	Lys	Cys	Lys	Glu	Met	Gly	Met	180	185	190
Leu	Ala	Glu	Cys	Met	Tyr	Thr	Gly	Leu	Leu	Thr	Glu	Ile	Gln	Cys	Lys	195	200	205
Ser	Lys	Arg	Leu	Arg	Lys	Asn	Val	Lys	Gln	His	Ala	Asp	Gln	Thr	Val	210	215	220
Asn	Glu	Asp	Ser	Glu	Gly	Arg	Asp	Leu	Arg	Gln	Val	Thr	Ser	Thr	Thr	225	230	235
Lys	Ser	Cys	Arg	Glu	Lys	Thr	Glu	Leu	Thr	Pro	Asp	Gln	Gln	Thr	Leu	245	250	255
Leu	His	Phe	Ile	Met	Asp	Ser	Tyr	Asn	Lys	Gln	Arg	Met	Pro	Gln	Glu	260	265	270
Ile	Thr	Asn	Lys	Ile	Leu	Lys	Glu	Glu	Phe	Ser	Ala	Glu	Glu	Asn	Phe	275	280	285
Leu	Ile	Leu	Thr	Glu	Met	Ala	Thr	Asn	His	Val	Gln	Val	Leu	Val	Glu	290	295	300
Phe	Thr	Lys	Lys	Leu	Pro	Gly	Phe	Gln	Thr	Leu	Asp	His	Glu	Asp	Gln	305	310	315
Ile	Ala	Leu	Leu	Lys	Gly	Ser	Ala	Val	Glu	Ala	Met	Phe	Leu	Arg	Ser	325	330	335
Ala	Glu	Ile	Phe	Asn	Lys	Lys	Leu	Pro	Ser	Gly	His	Ser	Asp	Leu	Leu	340	345	350
Glu	Glu	Arg	Ile	Arg	Asn	Ser	Gly	Ile	Ser	Asp	Glu	Tyr	Ile	Thr	Pro	355	360	365
Met	Phe	Ser	Phe	Tyr	Lys	Ser	Ile	Gly	Glu	Leu	Lys	Met	Thr	Gln	Glu	370	375	380
Glu	Tyr	Ala	Leu	Leu	Thr	Ala	Ile	Val	Ile	Leu	Ser	Pro	Asp	Arg	Gln	385	390	395
Tyr	Ile	Lys	Asp	Arg	Glu	Ala	Val	Glu	Lys	Leu	Gln	Glu	Pro	Leu	Leu	405	410	415

Asp Val Leu Gln Lys Leu Cys Lys Ile His Gln Pro Glu Asn Pro Gln
 420 425 430

His Phe Ala Cys Leu Leu Gly Arg Leu Thr Glu Leu Arg Thr Phe Asn
 435 440 445

His His His Ala Glu Met Leu Met Ser Trp Arg Val Asn Asp His Lys
 450 455 460

Phe Thr Pro Leu Leu Cys Glu Ile Trp Asp Val Gln
 465 470 475

<210> 2

<211> 472

<212> PRT

<213> Homo sapiens

<400> 2

Met Gly Ser Lys Met Asn Leu Ile Glu His Ser His Leu Pro Thr Thr
 1 5 10 15

Asp Glu Phe Ser Phe Ser Glu Asn Leu Phe Gly Val Leu Thr Glu Gln
 20 25 30

Val Ala Gly Pro Leu Gly Gln Asn Leu Glu Val Glu Pro Tyr Ser Gln
 35 40 45

Tyr Ser Asn Val Gln Phe Pro Gln Val Gln Pro Gln Ile Ser Ser Ser
 50 55 60

Ser Tyr Tyr Ser Asn Leu Gly Phe Tyr Pro Gln Gln Pro Glu Glu Trp
 65 70 75 80

Tyr Ser Pro Gly Ile Tyr Glu Leu Arg Arg Met Pro Ala Glu Thr Leu
 85 90 95

Tyr Gln Gly Glu Thr Glu Val Ala Glu Met Pro Val Thr Lys Lys Pro
 100 105 110

Arg Met Gly Ala Ser Ala Gly Arg Ile Lys Gly Asp Glu Leu Cys Val
 115 120 125

Val Cys Gly Asp Arg Ala Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys
 130 135 140

Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile Thr Lys Asn Ala Val
 145 150 155 160

Tyr Lys Cys Lys Asn Gly Gly Asn Cys Val Met Asp Met Tyr Met Arg
 165 170 175

Arg Lys Cys Gln Glu Cys Arg Leu Arg Lys Cys Lys Glu Met Gly Met
 180 185 190

Leu Ala Glu Cys Leu Leu Thr Glu Ile Gln Cys Lys Ser Lys Arg Leu
 195 200 205

Arg Lys Asn Val Lys Gln His Ala Asp Gln Thr Val Asn Glu Asp Ser
 210 215 220
 Glu Gly Arg Asp Leu Arg Gln Val Thr Ser Thr Thr Lys Ser Cys Arg
 225 230 235 240
 Glu Lys Thr Glu Leu Thr Pro Asp Gln Gln Thr Leu Leu His Phe Ile
 245 250 255
 Met Asp Ser Tyr Asn Lys Gln Arg Met Pro Gln Glu Ile Thr Asn Lys
 260 265 270
 Ile Leu Lys Glu Glu Phe Ser Ala Glu Glu Asn Phe Leu Ile Leu Thr
 275 280 285
 Glu Met Ala Thr Asn His Val Gln Val Leu Val Glu Phe Thr Lys Lys
 290 295 300
 Leu Pro Gly Phe Gln Thr Leu Asp His Glu Asp Gln Ile Ala Leu Leu
 305 310 315 320
 Lys Gly Ser Ala Val Glu Ala Met Phe Leu Arg Ser Ala Glu Ile Phe
 325 330 335
 Asn Lys Lys Leu Pro Ser Gly His Ser Asp Leu Leu Glu Glu Arg Ile
 340 345 350
 Arg Asn Ser Gly Ile Ser Asp Glu Tyr Ile Thr Pro Met Phe Ser Phe
 355 360 365
 Tyr Lys Ser Ile Gly Glu Leu Lys Met Thr Gln Glu Glu Tyr Ala Leu
 370 375 380
 Leu Thr Ala Ile Val Ile Leu Ser Pro Asp Arg Gln Tyr Ile Lys Asp
 385 390 395 400
 Arg Glu Ala Val Glu Lys Leu Gln Glu Pro Leu Leu Asp Val Leu Gln
 405 410 415
 Lys Leu Cys Lys Ile His Gln Pro Glu Asn Pro Gln His Phe Ala Cys
 420 425 430
 Leu Leu Gly Arg Leu Thr Glu Leu Arg Thr Phe Asn His His His Ala
 435 440 445
 Glu Met Leu Met Ser Trp Arg Val Asn Asp His Lys Phe Thr Pro Leu
 450 455 460
 Leu Cys Glu Ile Trp Asp Val Gln
 465 470

<210> 3

<211> 229

<212> PRT

<213> Homo sapiens

<400> 3

Glu Leu Thr Pro Asp Gln Gln Thr Leu Leu His Phe Ile Met Asp Ser
 1 5 10 15
 Tyr Asn Lys Gln Arg Met Pro Gln Glu Ile Thr Asn Lys Ile Leu Lys
 20 25 30
 Glu Glu Phe Ser Ala Glu Glu Asn Phe Leu Ile Leu Thr Glu Met Ala
 35 40 45
 Thr Asn His Val Gln Val Leu Val Glu Phe Thr Lys Lys Leu Pro Gly
 50 55 60
 Phe Gln Thr Leu Asp His Glu Asp Gln Ile Ala Leu Leu Lys Gly Ser
 65 70 75 80
 Ala Val Glu Ala Met Phe Leu Arg Ser Ala Glu Ile Phe Asn Lys Lys
 85 90 95
 Leu Pro Ser Gly His Ser Asp Leu Leu Glu Glu Arg Ile Arg Asn Ser
 100 105 110
 Gly Ile Ser Asp Glu Tyr Ile Thr Pro Met Phe Ser Phe Tyr Lys Ser
 115 120 125
 Ile Gly Glu Leu Lys Met Thr Gln Glu Glu Tyr Ala Leu Leu Thr Ala
 130 135 140
 Ile Val Ile Leu Ser Pro Asp Arg Gln Tyr Ile Lys Asp Arg Glu Ala
 145 150 155 160
 Val Glu Lys Leu Gln Glu Pro Leu Leu Asp Val Leu Gln Lys Leu Cys
 165 170 175
 Lys Ile His Gln Pro Glu Asn Pro Gln His Phe Ala Cys Leu Leu Gly
 180 185 190
 Arg Leu Thr Glu Leu Arg Thr Phe Asn His His His Ala Glu Met Leu
 195 200 205
 Met Ser Trp Arg Val Asn Asp His Lys Phe Thr Pro Leu Leu Cys Glu
 210 215 220
 Ile Trp Asp Val Gln
 225

<210> 4

<211> 305

<212> PRT

<213> Homo sapiens

<400> 4

Lys Leu Ser Glu Glu Gln Gln Arg Ile Ile Ala Ile Leu Leu Asp Ala
 1 5 10 15
 His His Lys Thr Tyr Asp Pro Thr Tyr Ser Asp Phe Cys Gln Phe Arg
 20 25 30

Pro Pro Val Arg Val Asn Asp Gly Gly Gly Ser His Pro Ser Arg Pro
 35 40 45
 Asn Ser Arg His Thr Pro Ser Phe Ser Gly Asp Ser Ser Ser Ser Cys
 50 55 60
 Ser Asp His Cys Ile Thr Ser Ser Asp Met Met Asp Ser Ser Ser Phe
 65 70 75 80
 Ser Asn Leu Asp Leu Ser Glu Glu Asp Ser Asp Asp Pro Ser Val Thr
 85 90 95
 Leu Glu Leu Ser Gln Leu Ser Met Leu Pro His Leu Ala Asp Leu Val
 100 105 110
 Ser Tyr Ser Ile Gln Lys Val Ile Gly Phe Ala Lys Met Ile Pro Gly
 115 120 125
 Phe Arg Asp Leu Thr Ser Glu Asp Gln Ile Val Leu Leu Lys Ser Ser
 130 135 140
 Ala Ile Glu Val Ile Met Leu Arg Ser Asn Glu Ser Phe Thr Met Asp
 145 150 155 160
 Asp Met Ser Trp Thr Cys Gly Asn Gln Asp Tyr Lys Tyr Arg Val Ser
 165 170 175
 Asp Val Thr Lys Ala Gly His Ser Leu Glu Leu Ile Glu Pro Leu Ile
 180 185 190
 Lys Phe Gln Val Gly Leu Lys Lys Leu Asn Leu His Glu Glu Glu His
 195 200 205
 Val Leu Leu Met Ala Ile Cys Ile Val Ser Pro Asp Arg Pro Gly Val
 210 215 220
 Gln Asp Ala Ala Leu Ile Glu Ala Ile Gln Asp Arg Leu Ser Asn Thr
 225 230 235 240
 Leu Gln Thr Tyr Ile Arg Cys Arg His Pro Pro Pro Gly Ser His Leu
 245 250 255
 Leu Tyr Ala Lys Met Ile Gln Lys Leu Ala Asp Leu Arg Ser Leu Asn
 260 265 270
 Glu Glu His Ser Lys Gln Tyr Arg Cys Leu Ser Phe Gln Pro Glu Cys
 275 280 285
 Ser Met Lys Leu Thr Pro Leu Val Leu Glu Val Phe Gly Asn Glu Ile
 290 295 300
 Ser
 305

<210> 5
 <211> 293
 <212> PRT
 <213> Homo sapiens

<400> 5

Gly	Leu	Thr	Glu	Glu	Gln	Arg	Met	Met	Ile	Arg	Glu	Leu	Met	Asp	Ala
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Gln	Met	Lys	Thr	Phe	Asp	Thr	Thr	Phe	Ser	His	Phe	Lys	Asn	Phe	Arg
			20					25					30		
Leu	Pro	Gly	Val	Leu	Ser	Ser	Gly	Cys	Glu	Leu	Pro	Glu	Ser	Leu	Gln
		35					40					45			
Ala	Pro	Ser	Arg	Glu	Glu	Ala	Ala	Lys	Trp	Ser	Gln	Val	Arg	Lys	Asp
	50					55					60				
Leu	Cys	Ser	Leu	Lys	Val	Ser	Leu	Gln	Leu	Arg	Gly	Glu	Asp	Gly	Ser
65					70					75					80
Val	Trp	Asn	Tyr	Lys	Pro	Pro	Ala	Asp	Ser	Gly	Gly	Lys	Glu	Ile	Phe
				85					90					95	
Ser	Leu	Leu	Pro	His	Met	Ala	Asp	Met	Ser	Thr	Tyr	Met	Phe	Lys	Gly
			100					105					110		
Ile	Ile	Ser	Phe	Ala	Lys	Val	Ile	Ser	Tyr	Phe	Arg	Asp	Leu	Pro	Ile
		115					120					125			
Glu	Asp	Gln	Ile	Ser	Leu	Leu	Lys	Gly	Ala	Ala	Phe	Glu	Leu	Cys	Gln
	130					135					140				
Leu	Arg	Phe	Asn	Thr	Val	Phe	Asn	Ala	Glu	Thr	Gly	Thr	Trp	Glu	Cys
145					150					155					160
Gly	Arg	Leu	Ser	Tyr	Cys	Leu	Glu	Asp	Thr	Ala	Gly	Gly	Phe	Gln	Gln
				165					170					175	
Leu	Leu	Leu	Glu	Pro	Met	Leu	Lys	Phe	His	Tyr	Met	Leu	Lys	Lys	Leu
			180					185					190		
Gln	Leu	His	Glu	Glu	Glu	Tyr	Val	Leu	Met	Gln	Ala	Ile	Ser	Leu	Phe
		195					200					205			
Ser	Pro	Asp	Arg	Pro	Gly	Val	Leu	Gln	His	Arg	Val	Val	Asp	Gln	Leu
	210					215					220				
Gln	Glu	Gln	Phe	Ala	Ile	Thr	Leu	Lys	Ser	Tyr	Ile	Glu	Cys	Asn	Arg
225					230					235					240
Pro	Gln	Pro	Ala	His	Arg	Phe	Leu	Phe	Leu	Lys	Ile	Met	Ala	Met	Leu
				245					250					255	
Thr	Glu	Leu	Arg	Ser	Ile	Asn	Ala	Gln	His	Thr	Gln	Arg	Leu	Leu	Arg
			260					265					270		

Ile Gln Asp Ile His Pro Phe Ala Thr Pro Leu Met Gln Glu Leu Phe
 275 280 285

Gly Ile Thr Gly Ser
 290

<210> 6

<211> 240

<212> PRT

<213> Homo sapiens

<400> 6

Thr Ser Ser Ala Asn Glu Asp Met Pro Val Glu Arg Ile Leu Glu Ala
 1 5 10 15

Glu Leu Ala Val Glu Pro Lys Thr Glu Thr Tyr Val Glu Ala Asn Met
 20 25 30

Gly Leu Asn Pro Ser Ser Pro Asn Asp Pro Val Thr Asn Ile Cys Gln
 35 40 45

Ala Ala Asp Lys Gln Leu Phe Thr Leu Val Glu Trp Ala Lys Arg Ile
 50 55 60

Pro His Phe Ser Glu Leu Pro Leu Asp Asp Gln Val Ile Leu Leu Arg
 65 70 75 80

Ala Gly Trp Asn Glu Leu Leu Ile Ala Ser Phe Ser His Arg Ser Ile
 85 90 95

Ala Val Lys Asp Gly Ile Leu Leu Ala Thr Gly Leu His Val His Arg
 100 105 110

Asn Ser Ala His Ser Ala Gly Val Gly Ala Ile Phe Asp Arg Val Leu
 115 120 125

Thr Glu Leu Val Ser Lys Met Arg Asp Met Gln Met Asp Lys Thr Glu
 130 135 140

Leu Gly Cys Leu Arg Ala Ile Val Leu Phe Asn Pro Asp Ser Lys Gly
 145 150 155 160

Leu Ser Asn Pro Ala Glu Val Glu Ala Leu Arg Glu Lys Val Tyr Ala
 165 170 175

Ser Leu Glu Ala Tyr Cys Lys His Lys Tyr Pro Glu Gln Pro Gly Arg
 180 185 190

Phe Ala Lys Leu Leu Leu Arg Leu Pro Ala Leu Arg Ser Ile Gly Leu
 195 200 205

Lys Cys Leu Glu His Leu Phe Phe Phe Lys Leu Ile Gly Asp Thr Pro
 210 215 220

Ile Asp Thr Phe Leu Met Glu Met Leu Glu Ala Pro His Gln Met Thr
 225 230 235 240